

SEVEN FAMILIES OF AQUATIC AND SEMIAQUATIC HEMIPTERA IN LOUISIANA¹

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Part II. *Family Naucoridae* Fallen, 1814. "Creeping Water Bugs".

Although the members of this family are widely distributed throughout North America, comparatively little is known of them. They are rather flattened, oval shaped bugs (Fig. 1). Coloration is usually dull brown to greenish, with various darker spots on the pronotum. The head is broad and flattened and smoothly continuous with its two large, often red tinted eyes. The front legs are raptorial and the middle and hind legs somewhat modified for swimming. Antennae are concealed in clefts beneath the eyes, and the beak is short and acute. Hemelytra are coarse and lack a membranous portion at the tip.

In Louisiana, the family is represented by one genus, *Pelocoris*, and two species. These bugs seem to prefer quiet or slow moving bodies of fresh water with abundant aquatic vegetation. Although truly aquatic, naucorids rarely venture beyond the protection served by submergent vegetation. They prefer to move through the vegetation in a half-swimming, half-creeping fashion seizing any victim they chance to come upon. They are fiercely predaceous and may inflict a painful bite when handled carelessly.

Respiration in the nymphs is usually through the cuticle. The adults absorb oxygen through the spiracles in contact with an air bubble which adheres to a fine pubescence occurring on the venter. Air in both the subelytral air space and the ventral air bubble is replenished by protrusion of the tip of the abdomen through the surface film. Oxygen may also diffuse directly into the bubble from the water.

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Louisiana's mild climate often allows these bugs to remain active throughout the winter. The suboval eggs are deposited in early spring, and are usually glued to submerged stationary objects. According to Usinger (1956), "hatching occurred in about four weeks for *Ambrysus mormon* (a western relative of *Pelocoris*), the nymph emerging through a crescent shaped tear at the micropylar end of the egg. The first four nymphal instars each required about a week during May, June, and July, whereas the fifth and last instar required three weeks". Since very little information on the biology of *Pelocoris* is available, it will be assumed that Louisiana specimens follow the same general instar sequence.

Review of the Literature. Bueno (1903) published notes on the habits and life history of *Pelocoris femoratus*. Hungerford (1927) recorded biological information such as food, oviposition, and habitat preferences, for *Pelocoris femoratus*. Usinger (1938, 1941, 1942, 1944, 1946, 1947) contributed much to our current knowledge of the naucorids. Penn (1951) gave additional records of naucorids in Louisiana. LaRivers (1948a, 1948b, 1950, 1951, 1962, 1963, 1965) published much useful data and described several new species of Naucoridae, none of which have been recorded for Louisiana.

KEY TO THE LOUISIANA SPECIES OF *PELOCORIS* STAL.

1. Female subgenital plate deeply notched at apex, emargination at least twice as deep as wide (Fig. 3a); male dorsal aedeagal plate abruptly truncate at tip (Fig. 3b) *P. carolinensis* Bueno
- Female subgenital plate only weakly emarginate (Fig. 3c); male aedeagal plate weakly emarginate at tip (Fig. 3d) . . . *P. femoratus* (Palisot de Beauvois) LaRivers

1. *Pelocoris carolinensis* Bueno, 1907b, Can. Entomol. 39: 227.

Description. Oval, but more narrowed in front than *P. femoratus*, with same general markings but color usually paler; margin of the pronotum more flattened and usually pale greenish-yellow to light brown; connexivum more widely exposed, the hind angles of each segment more prolonged; median lobe of sixth ventral abdominal segment of female with deep V cleft (Fig. 3a); male dorsal aedeagal plate abruptly truncate at tip (Fig. 3b); length 8.0 - 9.5 mm.

This species is often confused with *P. femoratus*. Since both species are subject to a great deal of variation, especially in color patterns, they are often difficult to distinguish at first glance. Close examination of the genitalia is the only sure means of identification. Females of *P. carolinensis* are readily identified by the deep V cleft in the sixth ventral segment. Identification of the males requires that the genitalia be softened with a wetting

agent and then withdrawn for study. Although *P. carolinensis* is very often taken with *P. femoratus* it seems to prefer clear, slow moving streams that have sandy-clay bottoms and some degree of vegetation. This in contrast to the murky, often stagnant habitat of *P. femoratus*. The habitats of *P. carolinensis* are generally cooler, being shaded to a large degree.

S. of Paradis, 1-29-67 (GJG 18); *St. Tammany* -- W. of Hickory, 7-11-67 (GJG 86). *Previous Parish Records*. *St. Tammany* (Penn, 1951).

2. *Pelocoris femoratus* (Palisot de Beauvois) LaRivers, 1948, *Ann. Entomol. Soc. Amer.* 41: 372.

Naucoris femoratus Palisot de Beauvois, 1805, *Inst. Recueillis en Afrique et en Amerique*, P. 237.

Naucoris poeyi Guerin Meneville, 1844, *Icon. Regne. Anim. Ins.*, P. 352.

Description. Broadly oval; general color greenish-yellow; head usually with a median brown stripe; pronotum moderately punctate, more than twice as wide than its median length; hind lobe of pronotum lighter colored with scattered longitudinal darker marks; elytra scutellum, and bentrum olive-brown; scutellum and elytra thickly but finely punctate; connexivum moderately exposed, the hind angles of each segment rather abrupt; median lobe of sixth ventral abdominal segment of female not or weakly cleft (Fig. 3c); male dorsal aedeagal plate emarginate at tip (Fig. 3d); length 8.5 - 11mm.

Of the two species of *Pelocoris* found in Louisiana *P. femoratus* is by far the most common. Collections have revealed an extensive distribution (Fig. 2a). No doubt this species may be found in every parish in the State. This species frequents very slow moving or stagnant water with an extreme amount of aquatic vegetation. This type of habitat may readily be found throughout the state. *P. femoratus* is considerably larger, more plump, and has much darker coloration and markings than its closest relative, *P. carolinensis*. In a suitable habitat, this species will usually be found among the roots and leaves of floating or anchored aquatic vegetation. Care should be taken in removing the specimens from the vegetation for both species of the genus can inflict a painful bite.

Distribution by Parish (Fig. 2a). Ascension -- W. of Sunshine, 6-14-67 (GJG 62). Bienville -- S. of Lucky, 6-8-67 (GJG 54). Cameron -- N. of Hickory, 7-17-67 (GJG 93). Claiborne -- W. of Athens, 6-8-67 (GJG 52). East Baton Rouge -- SE of Fred, 6-10-67 (GJG 80). East Feliciana -- W. of Clinton, 7-10-67 (GJG 81). Grant -- S. of Colfax, 8-16-67 (GJG 116). Iberia -- W. of Avery Island, 1-6-67 (GJG 20). Jackson -- N. of Quiteman, 2-26-67 (GJG 64). Lafayette -- W. of La. 167, 10-9-67 (GJG 6); N. of Scott, 11-1-67 (GJG 8); Beaver Park, Lafayette, 11-15-66 (GJG 10); S. of Lafayette, 1-31-67 (GJG 19). Lafourche -- W. of Larose, 11-20-67 (GJG 150); NE of Houma, 11-9-66 (GJG 9d). Natchitoches -- S. of Perry, 10-20-66 (GJG 5a). St. James -- NE of Thibodaux, 11-27-67 (GJG 153). St. Landry -- S. of Melville, 6-14-67 (GJG 60). St. Martin -- NW of Cecilia, 6-14-67 (GJG 55). St. Mary -- W. of Berwick, 11-9-66 (GJG 9b); SSW of Centerville, 3-27-67 (GJG 27); SW of Centerville, 4-27-67 (GJG 35). St. Charles -- S. of Paradis, 1-29-67 (GJG 18). St. Tammany -- E. of Montpelier, 7-11-67 (GJG 88); W. of Hickory, 7-11-67 (GJG 86). Terrebonne -- Bourg, 11-20-67 (GJG 149); E. of Atchafalaya R., 11-9-66 (GJG 9c); S. of Chauvin, 8-25-67 (GJG 27); E. of Houma, 11-20-67 (GJG 28). Vermillion -- NW of Intracoastal, 4-25-67 (GJG 148). West Baton Rouge -- W. of Carey, 6-14-67 (GJG 63).

Previous Parish Records. St. Tammany (LaRivers, 1948). Avoyles, East Baton Rouge, Iberville, Jefferson, Lafourche, Morehouse, Orleans, Plaquemines, Point Coupee, St. Bernard, St. Charles, St. James, St. John, St. Martin, St. Mary, and West Baton Rouge (Ellis, 1951). Assumption, Jackson, Lincoln, Ouachita, Rapides, West Carol (Penn, 1951).

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- ABSTRACT.** Seven Families of Aquatic and Semiaquatic Hemiptera in Louisiana

PART II. Family Naucoridae

This paper contains data on the collection, taxonomy, distribution, and synonymy of two species of the family Naucoridae (aquatic Hemiptera) in Louisiana. In addition to a key to the species, family and species descriptions are also included along with detailed locality data for each species. A review of the literature is presented with the family discussion. Ecological information is given with each species. Collections for this study were made on a year round basis. A new state record is herein recorded.

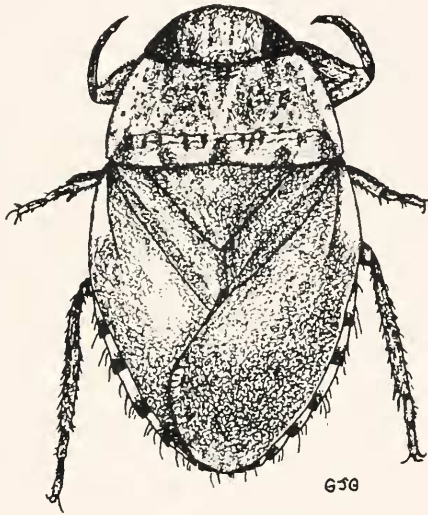


Fig. 1. *Pelocoris femoratus* (Palisot de Beauvois) La Rivers.

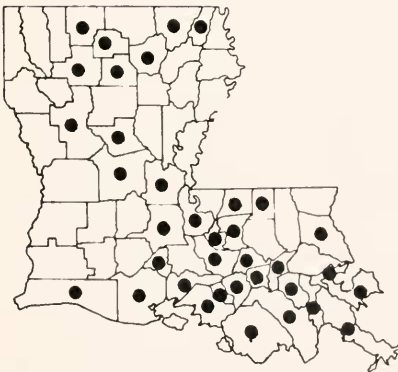


Fig. 2a. Distribution of *Pelocoris femoratus* (Palisot de Beauvois) La Rivers.

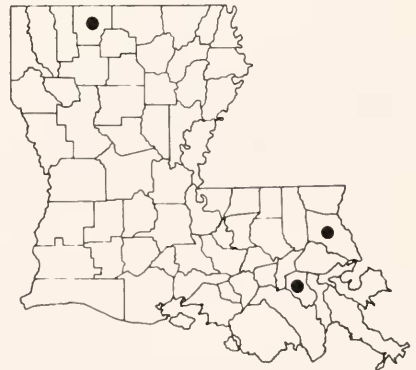


Fig. 2b. Distribution of *Pelocoris carolinensis* Bueno.

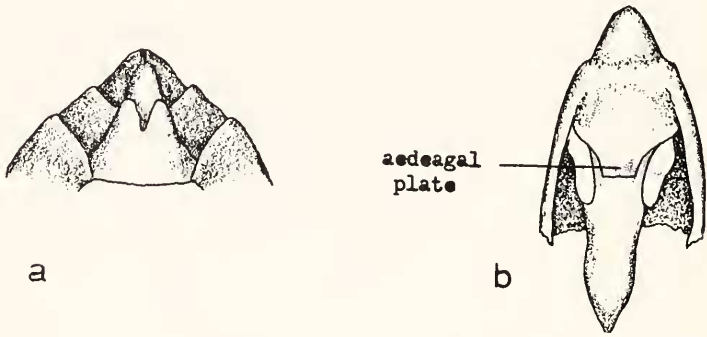


Fig. 3a-b. *Pelocoris carolinensis* Bueno. a. Female subgenital plate; b. Male dorsal aedeagal plate.

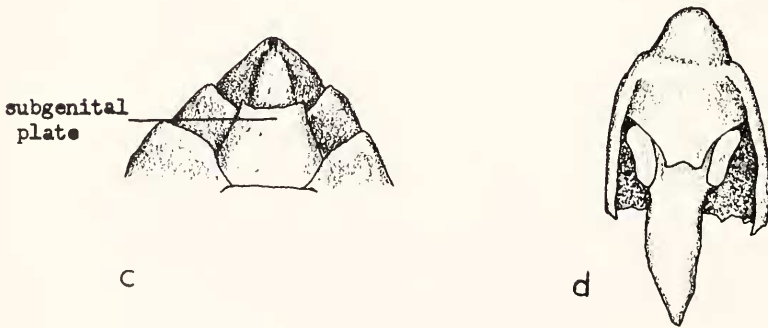


Fig. 3c-d. *Pelocoris femoratus* (Palisot de Beauvois) La Rivers. c. Female subgenital plate; d. Male dorsal aedeagal plate.